

## Amendments to the Claims

Please replace the Claims as shown below:

1. (Currently Amended) A computer implemented method for determining a preference policy for ~~a market~~ an auction to be conducted, said method comprising:
  - selecting characteristics of ~~said market~~, wherein said market comprises an auction market auction to be conducted;
  - selecting a relevant bidding model for said auction to be conducted;
  - estimating a structure of said market auction to be conducted, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;
  - predicting a bidding behavior for said auction to be conducted;
  - predicting a first outcome of said market auction to be conducted; and
  - evaluating said first outcome of said market auction to be conducted, wherein said evaluating comprises:
    - selecting ~~a best preference~~ an optimal preference policy from a plurality of candidate preference policies for treating different groups of bidders differently, wherein ~~said best preference~~ optimal preference policy comprises the candidate preference policy within a plurality having the highest ranking; and
    - outputting said best preference optimal preference policy to an auction implementation system.

2. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said selecting characteristics of said auction to be conducted further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and  
outputting said auction characteristics data.

3. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said selecting a relevant bidding model for said auction to be conducted further comprises:

receiving said auction characteristics data;  
accessing a database;  
retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and  
outputting said relevant bidding model.

4. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said estimating a structure of said auction to be conducted further comprises:

receiving said relevant bidding model;  
receiving said bids data;  
~~expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;~~  
transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;  
estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and  
outputting said estimated structure.

5. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior for said auction to be conducted further comprises:

receiving said estimated structure;

receiving said relevant bidding model;  
substituting said estimated structure for said unknown structure; and  
outputting a prediction of bidding behavior.

6. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said predicting a first outcome of said auction to be conducted further comprises:

receiving a second user input, wherein said second user input comprises:

an evaluation criterion;  
a candidate preference policy; and  
a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and outputting said value.

7. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said evaluating said first outcome of said auction to be conducted further comprises:

receiving a third user input, wherein said third user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;  
calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and  
outputting said descriptive statistics and said rankings.

8. (Canceled)

9. (Currently Amended) A computer system comprising:

a bus;

a memory interconnected with said bus; and

a processor interconnected with said bus, wherein said processor executes a method for determining a preference policy for ~~a market~~ an auction to be conducted, said method comprising:

selecting characteristics of said market, wherein said market comprises an auction market auction to be conducted;

selecting a relevant bidding model for said auction to be conducted;

estimating a structure of said market auction to be conducted, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

predicting a bidding behavior for said auction to be conducted;

predicting a first outcome of said market auction to be conducted; and

evaluating said first outcome of said market auction to be conducted, wherein said evaluating comprises:

selecting a best preference an optimal preference policy from a plurality of candidate preference policies for treating different groups of bidders differently, wherein said best preference optimal preference policy comprises the candidate preference policy within a plurality having the highest ranking; and

outputting said best preference optimal preference policy to an auction implementation system.

10. (Currently Amended) The system as recited in Claim 9, wherein said selecting characteristics of said method auction to be conducted further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;  
outputting said bids data; and  
outputting said auction characteristics data.

11. (Currently Amended) The system as recited in Claim 9, wherein said selecting a relevant bidding model ~~of said method~~ for said auction to be conducted further comprises:

receiving said auction characteristics data;  
accessing a database;  
retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and  
outputting said relevant bidding model.

12. (Currently Amended) The system as recited in Claim 9, wherein said estimating ~~of said method~~ a structure of said auction to be conducted further comprises:

receiving said relevant bidding model;  
receiving said bids data;  
~~expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;~~  
transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;  
estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and  
outputting said estimated structure.

13. (Currently Amended) The system as recited in Claim 9, wherein said bidding model has embedded an unknown structure, and wherein said predicting a

~~bidding behavior step~~ ~~behavior of said method for said auction to be conducted~~  
further comprises ~~the steps of:~~:

receiving said estimated structure;  
receiving said relevant bidding model;  
substituting said estimated structure for said unknown structure; and  
outputting a prediction of bidding behavior.

14. (Currently Amended) The system as recited in Claim 9, wherein said predicting a first outcome of said ~~method auction to be conducted~~ further comprises:

receiving a second user input, wherein said second user input comprises:  
an evaluation criterion;  
a candidate preference policy; and  
a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and  
outputting said value.

15. (Currently Amended) The system as recited in Claim 9, wherein said evaluating said first outcome of said ~~method auction to be conducted~~ further comprises:

receiving a third user input, wherein said third user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

16. (Canceled)

17. (Currently Amended) A computer readable medium having encoded therein a computer readable code for causing a computer system to execute a computer implemented method for determining a preference policy for ~~a market~~ an auction to be conducted, said method comprising:

selecting characteristics of ~~said market, wherein said market comprises an auction market~~ auction to be conducted;

selecting a relevant bidding model for said auction to be conducted;  
estimating a structure of ~~said market auction to be conducted, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model~~;

predicting a bidding behavior for said auction to be conducted;  
predicting a first outcome of ~~said market auction to be conducted~~; and  
evaluating said first outcome of ~~said market auction to be conducted~~, wherein said evaluating comprises:

selecting ~~a best preference~~ an optimal preference policy from a plurality of candidate preference policies for treating different groups of bidders differently, wherein ~~said best preference~~ optimal preference policy comprises the candidate preference policy within a plurality having the highest ranking; and

outputting ~~said best preference~~ optimal preference policy to an auction implementation system.

18. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said selecting characteristics of ~~said method~~ further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;  
accessing a database;  
retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;  
outputting said bids data; and  
outputting said auction characteristics data.

19. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said selecting a relevant bidding model ~~of said method~~ further comprises:

receiving said auction characteristics data;  
accessing a database;  
retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and  
outputting said relevant bidding model.

20. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said estimating ~~of said method~~ further comprises:

receiving said relevant bidding model;  
receiving said bids data;  
~~expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;~~  
transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;  
estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and  
outputting said estimated structure.

21. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior ~~of said method~~ further comprises:

receiving said estimated structure;  
receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and  
outputting a prediction of bidding behavior.

22. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said predicting a first outcome of ~~said method~~ further comprises:

receiving a second user input, wherein said second user input comprises:

- an evaluation criterion;
- a candidate preference policy; and
- a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and  
outputting said value.

23. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said evaluating said first outcome of ~~said method~~ further comprises:

receiving a third user input, wherein said third user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

24. (Canceled)